

a: Mike Johnston

3111 "C" STREET ANCHORAGE, ALASKA

TELEPHONE (907) 265-0000

MAIL: POUCH 6-612 ANCHORAGE, ALASKA 99502

August 17, 1981 cc: 38,458

Mr. Ernest W. Mueller, Commissioner Alaska Department of Environmental Conservation Pouch O Juneau, Alaska 99811

Attention: Mr. Stan Hungerford

Subject: Submittal of Air Quality Control Permit Applications

for Additional Facilities in the Prudhoe Bay Oil Field.

Dear Sir:

We hereby submit for your review and approval four Air Quality Control permit applications for proposed facilities to be constructed in the Prudhoe Bay Oil Field. These proposed facilities, to be located at GC-1, GC-2, GC-3, and the West Injection Plant, provide additional turbine capacity for the previously permitted Produced Water Injection, Low Pressure Separation, Artificial Lift, and Waterflood projects.

The air quality impacts from the proposed facilities are further defined in the following documents sent to your office on February 5, 1981 and June 9, 1981, respectively: PSD Permit Application for New Sources to be Added to Existing and Previously Permitted Facilities in the Prudhoe Bay Unit (PSD IV), Radian Corporation, January, 1981 and Air Quality Impacts of Prudhoe Bay Increment IV Sources as Estimated by the Texas Climatological Model (TCM-1), Radian Corporation, May, 1981.

Should there be any technical questions regarding the above applications please contact Mark Wagner at (907) 263-5137. Any other questions pertaining to this application can be directed to the undersigned at (907) 263-5427.

Very truly yours,

Herman A. Schmidt

Herman A. Schmidt Manager Lands

Attachments

cc: Mr. Doug Lowery - ADEC, Fairbanks Mr. Jim Sweeney - EPA, Anchorage RECEIVED

AUG 19

ATASKA OPERATIONS



# APPLICATION FOR AIR QUALITY CONTROL PERMIT TO OPERATE

I.	FIRM NAME Sohio Alaska Petroleum Company	
	Address Pouch 6-612	1
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111	
	LEGAL OWNER Prudhoe Bay Unit Sohio Alaska Petroleum Company (West Side Operators)  Address Pouch 6-612	
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111	
		3.0
II.	NAME OF FACILITY: Gathering Center No. 1	
III.	LOCATION OF FACILITY: Prudhoe Bay, Alaska	
IV.	NATURE OF BUSINESS (Include type of product, production rate, size and history of facility, listing the units having air contaminant emissions and control equipment type and efficiency)	
	Fully integrated petroleum products company.  Products: Petroleum  Production rate: 720,000 ± barrels per day of crude oil.  Principal source of air pollutant emissions are natural gas fired turbines.	
٧.	LIST OF ATTACHMENTS (The information required to fully describe the facility outlined in the Permit Application Information and Instructions or other text, drawings, photographs and maps)	
	Attachment I: Air Quality Data Submittal Form.	
VI.	CERTIFICATION STATEMENT: I certify under penalty of perjury that to the best of my_knowledge all of the above information and attachments are true and corre	ct
	Herman A. Schmidt 8/18/81	
	SIGNATURE Herman A. Schmidt Date	

Manger, Lands

### AIR QUALITY DATA SUBMITTAL FORM

FIRM NAME Sohio Alaska Petroleum Company ADDRESS Pouch 6-612, Anchorage, Ak. 99502	PHONE NUMBER (907) 276-5111
NATURE OF BUSINESS OPERATION Fully integrated petroleum products company.	PHONE NUMBER (907) 263-5427
SIGNATURE Rerman A. Schmidt DATE Chiquet 18, 1981	
Tabulate as completely as possible all fuel burning units, incinerators, flares, auxiliary burners, or processes which matter, SO <sub>2</sub> , CO or NO <sub>2</sub> .	may emit particulate

CHARACTERIZATION OF AIR CONTAMINANT EMITTING UNITS/PROCESSES

Jnit No.	Type of Unit or Process	Rated Capacity, indicate, BTU/hr, HP, KW, 1b/hr, or process production	Type of Fuel	Quantity/hr <sub>3</sub> lb, gal, ft ft <sup>3</sup> /hr.	Sulfur Content	Ash Content	Heat Content BTU/SCF	Usage - % for space heat, power generation, process heat
2	Turbine	7.5 MHP	Natural Gas	80,000	20 ppm H <sub>2</sub> S	N/A	914	100% Pump Drivers
*	Turbine Capacity	35 MHP	Natural Gas	375,000	20 ppm H <sub>2</sub> S	N/A	914	100% Compressor Driver
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)—							1997	
		attained w/multip			10 mm 200			

### FOR EACH UNIT/PROCESS

			,	1								Total		
Unit No.	Normal Op Schedu hrs/day,	operating dule days/wk, w	wks/year	Stack or emissions point height, diameter, exhaust temp				Control Equipment type, capacity, efficiency			Emissions Estimates SO <sub>2</sub> P.M. CO. NO <sub>2</sub> Ton/Yr			
2-7.5 MHP 35 MHP *	24	7	52	22.2	1.16	450	N/A	N/A	N/A		2.4	9.9	72	401
Capacity	.24	7	52	22.2	1.98	450	N/A	, N/A	N/A		5.5	23.0	169	935
			W. Carlotte											
												•	-	
•						E1				Total	7.9	32.9	241	1336

<sup>\*</sup>Total capacity to be attained w/multiple turbines w/individual capacities ranging from 22.6 MHP to 36 MHP.

Bulk Storage/Handling Facilities-Petroleum Products, Fuels, Gravel, Concrete

Unit No. Type of Material Stored	Type of Storage tank/storage	Storage Volume	Annual Throughput	Emissions Controls	Emissions Control Efficiency	Estimate of Emissions (T/Y) SO <sub>2</sub> P.M. CO NO <sub>2</sub> H.C.

HVIRONMENTAL CONSERVATION

# APPLICATION FOR AIR QUALITY CONTROL PERMIT TO OPERATE

I.	FIRM NAME Sohio Alaska Petroleum Company
	Address Pouch 6-612
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111
	LEGAL OWNER Prudhoe Bay Unit Sohio Alaska Petroleum Company (West Side Operators)  Address Pouch 6-612
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111
II.	NAME OF FACILITY: Gathering Center No. 2
11.	LOCATION OF FACILITY: Prudhoe Bay, Alaska
IV.	NATURE OF BUSINESS (Include type of product, production rate, size and history of facility, listing the units having air contaminant emissions and control equipment type and efficiency)
in an inam inam inam inam inam inam inam in	Fully integrated petroleum products company.  Products: Petroleum  Production rate: 720,000 ± barrels per day of crude oil.  Principal source of air pollutant emissions are natural gas fired turbines.
٧.	LIST OF ATTACHMENTS (The information required to fully describe the facility outlined in the Permit Application Information and Instructions or other text, drawings, photographs and maps)
	Attachment I: Air Quality Data Submittal Form.
VI.	CERTIFICATION STATEMENT: I certify under penalty of perjury that to the best of my knowledge all of the above information and attachments are true and correct
	al 11. H 8/1/01
	SIGNATURE Herman A. Schmidt Date
	Manger, Lands
	TITLE

### AIR QUALITY DATA SUBMITTAL FORM

FIRM NAME Sobio Alaska Petroleum Company	ADDRESS Pouch 6-612, Anchorage, Ak. 99502	PHONE NUMBER
NATURE OF BUSINESS OPERATION Fully integrated petroleum produ	icts company.	PHONE NUMBER (907) 276-5111
COMPANY REPRESENTATIVE ON AIR QUALITY MATTERS Herman A. Schmidt	or Mark R. Wagner	PHONE NUMBER (907) 263-5427
SIGNATURE German C. Schm	idt. DATE august 18, 198	3/
Tabulate as completely as possible all fuel burning units, incineramatter, SO <sub>2</sub> , CO or NO <sub>2</sub> .	tors, flares, auxiliary burners, or processes which	ch may emit particulate

### CHARACTERIZATION OF AIR CONTAMINANT EMITTING UNITS/PROCESSES

Unit No.	Type of Unit or Process	Rated Capacity, indicate, BTU/hr, HP, KW, 1b/hr, or process production		Quantity/hr <sub>3</sub> lb, gal, ft ft 3/hr.	Sulfur Content	Ash Content	Heat Content BTU/SCF	Usage - % for space heat, power generation, process heat
3	Turbine	7.5 MHP	Natural Gas	80,000	20 ppm H <sub>2</sub> S	N/A ·	914	100% Pump Drivers
*	Turbine Capacity	45 MHP	Natural Gas	482,000	20 ppm H <sub>2</sub> S	N/A	914	100% Compressor Drivers
							TO SERVICE OF THE SER	
					*			
					1			

<sup>\*</sup>Total capacity to be attained w/multiple turbines w/individual capacities ranging from 22.6 MHP to 36MHP.

1912								Total							
Unit No. GC-2	Normal Ope Schedul hrs/day, d	erating le days/wk, wk	ks/year	Stack or emissions point height, diameter, exhaust temp m m				type, capacity, efficiency			Emiss SO <sub>2</sub>	Emissions Estimates SO <sub>2</sub> P.M. CO. NO <sub>2</sub> Ton/Yr			
3-7.5 MHP 45 MHP *	24	7	52	22.2	1.16	450	N/A	N/A	N/A		3,6	14.8	109	60]	
Capacity	24	7	52	22.2	1.98	450	N/A	N/A	N/A		7.1	29.6	217	120	
·					/										
					Marka (Ca)						The said			1	
, 1			•									•	25		
										Total	10.7	44.4	326	1180	

<sup>\*</sup>Total capacity to be attained w/multiple turbines w/individual capacities ranging from 22.6 MHP to 36 MHP.

Bulk Storage/Handling Facilities-Petroleum Products; Fuels, Gravel, Concrete

Unit No.	ype of Material Stored	Type of Storage tank/storage	Storage Volume	Annual Throughput	Emissions Controls	Emissions Control Efficiency	ate of P.M.	Emissic CO NO	ons (T/Y) 2 H.C.	

Manger, Lands

## APPLICATION FOR AIR QUALITY CONTROL PERMIT TO OPERATE

	AIR QUALITY CONTROL PENTITY TO GREGOTE
I.	FIRM NAME Sohio Alaska Petroleum Company
	Address Pouch 6-612
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111
	LEGAL OWNER Prudhoe Bay Unit Sohio Alaska Petroleum Company (West Side Operators)  Address Pouch 6-612
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111
II.	NAME OF FACILITY: Gathering Center No. 3
III.	LOCATION OF FACILITY: Prudhoe Bay, Alaska
IV.	NATURE OF BUSINESS (Include type of product, production rate, size and history of facility, listing the units having air contaminant emissions and control equipment type and efficiency)
	Fully integrated petroleum products company.  Products: Petroleum  Production rate: 720,000 ± barrels per day of crude oil.  Principal source of air pollutant emissions are natural gas fired turbines.
٧.	LIST OF ATTACHMENTS (The information required to fully describe the facility outlined in the Permit Application Information and Instructions or other text, drawings, photographs and maps)
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VI.	CERTIFICATION STATEMENT: I certify under penalty of perjury that to the best of my knowledge all of the above information and attachments are true and corre
	Hormon a. Schmidt 8/18/81
	SIGNATURE Herman A. Schmidt Date

#### AIR QUALITY DATA SUBMITTAL FORM

FIRM NAME Sobio Alaska Petroleum Company	ADDRESS Pouch 6-612	Anchorage, Ak. 99502	PHUNE NUMBER (907) 276-51	Ш
NATURE OF BUSINESS OPERATION Fully integrated petroleum produ	icts company.			* .
COMPANY REPRESENTATIVE ON AIR QUALITY MATTERS, Herman A. Schmidt			PHONE NUMBER (907) 263-54	127
SIGNATURE Herman A. Lehin		DATE august 18, 198	3/	
Tabulate as completely as possible all fuel burning units, incinera matter, SO <sub>2</sub> , CO or NO <sub>2</sub> .				

### CHARACTERIZATION OF AIR CONTAMINANT EMITTING UNITS/PROCESSES

Unit No.	Type of Unit or Process	Rated Capacity, indicate, BTU/hr, HP, KW, 1b/hr, or process production	Type of Fuel	Quantity/hr <sub>3</sub> lb, gal, ft ft <sup>3</sup> /hr.	Sulfur Content	Ash Content	Heat Content BTU/SCF	Usage - % for space heat, power generation, process heat
. 1	Turbine	7.5 MHP	Natural Gas	80,000	20 ppm H <sub>2</sub> S	N/A	914	100% Pump Driver
*	Turbine Capacity	60 MHP	Natural Gas	643,000	20 ppm H <sub>2</sub> S	N/A	914	100% Compressor Driver
			7			Serie - Series		

Aportal capacity to be attained w/multiple turbines w/individual capacities ranging from 22.6 MHP to 36MHP.

### FOR EACH UNIT/PROCESS

				3	Act and the second							Total		
Unit No.	hrs/day, days/wk, wks/year						eight, diameter, exhaust temp type, capacity, efficiency Devices					P.M. Ton/Yr	CO.	
1-7.5 MHP	24	7	52	22.2	1.16	450	N/A	N/A	N/A		1.2	5.0	36	200
60 MHP * Capacity	24	7	52	22.2	1.98	450	N/A	. N/A	N/A		9.5	39.4	290	1604
• 1		And T												
•											100		Covered Ohio	
		2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1												
										Total	10.7	44.4	326	-180

\*Total capacity to be attained w/multiple turbines w/individual capacities ranging from 22.6 MHP to 36 MHP.

Bulk Storage/Handling Facilities-Petroleum Products, Fuels, Gravel, Concrete

of Material tored	Type of Storage tank/storage	Storage Volume	Annual Throughput	Emissions Controls	Emissions Control Efficiency	Estimate of SO <sub>2</sub> P.M.	Emissions CO NO <sub>2</sub>	(T/Y) H.C.

# APPLICATION FOR AIR QUALITY CONTROL PERMIT TO OPERATE

	ATT CONDITION OF THE PROPERTY
I.	FIRM NAME Sohio Alaska Petroleum Company
	Address Pouch 6-612
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111
	LEGAL OWNER Prudhoe Bay Unit Sohio Alaska Petroleum Company (West Side Operators)  Address Pouch 6-612
	Anchorage, Alaska 99502 Telephone Number (907) 276-5111
II.	NAME OF FACILITY: West Injection Plant
111.	LOCATION OF FACILITY: Prudhoe Bay, Alaska
IV.	NATURE OF BUSINESS (Include type of product, production rate, size and history of facility, listing the units having air contaminant emissions and control equipment type and efficiency)
	Fully integrated petroleum products company.  Products: Petroleum  Production rate: 720,000 ± barrels per day of crude oil.  Principal source of air pollutant emissions are natural gas fired turbines.
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	Herman A. Schmidt 8/18/81
	SIGNATURE Herman A. Schmidt
	Manger, Lands

#### AIR QUALITY DATA SUBMITTAL FORM

FIRM NAME Sohio Alaska Petroleum Company	ADDRESS Pouch 6-612,	Anchorage, Ak. 99502	PHONE NUMBER_	(907)	276-5111	
NATURE OF BUSINESS OPERATION Fully integrated petroleum produ	ucts company.	**		52 m/s 5		* .
COMPANY REPRESENTATIVE ON AIR QUALITY MATTERS Herman A. Schmidt			PHONE NUMBEROR	(907) (907)	263-5427 263-5137	
SIGNATURE		DATE				
Tabulate as completely as possible all fuel burning units, incinera matter, $SO_2$ , $CO$ or $NO_2$ .	ators, flares, auxiliary	burners, or processes whi	ch may emit part	culate .		

### CHARACTERIZATION OF AIR CONTAMINANT EMITTING UNITS/PROCESSES

Unit No. West In jection Plant		Rated Capacity, indicate, BTU/hr, HP, KW, 1b/hr, or process production	Type of Fuel	Quantity/hr <sub>3</sub> lb, gal, ft <sup>3</sup> ft <sup>3</sup> /hr.	Sulfur Content	Ash Content	Heat Content BTU/SCF	Usage - % for space heat, power generation, process heat
*	Turbine Capacity	25 MHP	Natural Gas	268,000	20 ppm H <sub>2</sub> S	N/A	914	100% compressor driver
-								
2								
				1				
••								

## FOR EACH UNIT/PROCESS

est In- ection .	Normal Op Schedu hrs/day,	le ·	ks/year	Stack or height,	emissions diameter, m	point exhaust temp	type,	Control Equipm capacity,	nent efficiency	Monitoring Devices	Emis	Total sions I P.M.	Estima CO.	ates NO <sub>2</sub>
apacity	24	7	52	22.2	1.98	450	N/A	N/A	. N/A		3.9	Ton/Y:		668
														1 10
otal ca	pacity to	be attair	and w/mul							Total	3.9	16.4	121	668

otal capacity to be attained w/multiple turbines w/individual capacities ranging from 22.6 MHP to 36 MHP.

Bulk Storage/Handling Facilities-Petroleum Products, Fuels, Gravel, Concrete

Unit No.	Type of Material Stored	Type of Storage tank/storage	Storage Volume	Annual Throughput	Emissions Controls	Emissions Control Efficiency	Estimate of Emissions (T/Y) SO <sub>2</sub> P.M. CO NO <sub>2</sub> H.C.